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EXAMINER	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEPHEN J. ZACK, CHRISTOPHER W. B. GOODE,
YONG HO SON, ANDREW G. FLETCHER,
and KEVIN J. BORUSIEWICZ

Appeal 2008-4749
Application 09/458,322[1]
Technology Center 2600

Decided:[2] February 17, 2009

Before KENNETH W. HAIRSTON, JOSEPH F. RUGGIERO, and MARC S. HOFF, *Administrative Patent Judges*.

HOFF, *Administrative Patent Judge.*

DECISION ON APPEAL

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[1] Application filed December 10, 1999. The real party in interest is Sedna Patent Services, LLC.

[2] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 from a Final Rejection of claims 32-44.[3] We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

Appellants' invention relates to providing in-band messaging to functional elements and/or subscribers within an information distribution system such as video on demand (VOD) (Spec. 1). "Non-content" data, such as control data and other messages, is formatted, and then multiplexed into the output data stream, the multiplexing being done on a future bandwidth availability basis that is predicted based on multiplexing of formatted content streams (Spec. 6, 13).

Claim 32 is exemplary:

32. In an information distribution system comprising server equipment for providing both content and non-content data to subscriber equipment, said server equipment comprising:

a multiplex switch for multiplexing a plurality of formatted content data from server modules to produce an output stream that is adapted for transport to the subscriber equipment via a communication channel, wherein said multiplexing of said formatted content data is statistically performed; said multiplex switch comprises a converter module for formatting non-content data and a switching module for selectively multiplexing formatted non-content data into said output stream, wherein said multiplexing of formatted non-content data is on a future bandwidth availability basis that is predicted based on said multiplexing of said formatted content streams; and

[3] Claims 1-31 have been canceled.

a transport processor coupled to the multiplex switch for receiving the output stream from the multiplex switch and for transmitting to the multiplex switch reverse data channel information received via a reverse data channel.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

O'Loughlin	US 6,185,635 B1	Feb. 6, 2001 (filed May 30, 1998)
Wu	US 6,594,271 B1	Jul. 15, 2003 (filed Jul. 19, 1999)
Mao	US 6,886,178 B1	Apr. 26, 2005 (filed Jul. 29, 1998)

Claims 32-44 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mao in view of Wu and O'Loughlin.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the Appeal Brief (filed October 2, 2007), the Reply Brief (filed January 18, 2008), and the Examiner's Answer (mailed November 27, 2007) for their respective details.

ISSUES

The principal issue in the appeal before us is:

Have Appellants shown that the Examiner erred in finding that Wu teaches the multiplexing of formatted non-content data on a future bandwidth availability basis, that is predicted based on the multiplexing of formatted content streams?

FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

The Invention

1. According to Appellants, the invention concerns providing in-band messaging to functional elements and/or subscribers within an information distribution system such as video on demand (VOD) (Spec. 1).

2. "Non-content" data, such as control data and other messages, is formatted, and then multiplexed into the output data stream, the multiplexing being done on a future bandwidth availability basis that is predicted based on multiplexing of formatted content streams (Spec. 6, 13).

Mao

3. Mao teaches formatting HTML web page data to fit within the MPEG-2 data packet structure, and multiplexing said web page data along with other MPEG-2 digital video signals for transport within a multiple channel digital video system (col. 3, ll. 20-24).

Wu

4. Wu teaches providing an opportunistic data capability for an existing statistical multiplexing encoder platform such as a multi-channel video data encoder (col. 2, ll. 4-6).

5. Wu teaches that Opportunistic Data Processor (ODP) 160 "tricks" Quantizer Level Processor (QLP) 130 into assigning it bandwidth only when the ODP determines that excess bandwidth is available (col. 5, ll.

13-18). Opportunistic data is enabled only when the global Quantizer Level (QL) drops below a threshold (col. 5, ll. 28-30).

O'Loughlin

6. O'Loughlin teaches a method and circuit for transporting data based on the content of ingress data words and egress data words (Title).

PRINCIPLES OF LAW

> Section 103 forbids issuance of a patent when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."

KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1734 (2007).

The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S. Ct. at 1734 ("While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.")

In *KSR*, the Supreme Court emphasized "the need for caution in granting a patent based on the combination of elements found in the prior art," *id.* at 1739, and discussed circumstances in which a patent might be

determined to be obvious. In particular, the Supreme Court emphasized that "the principles laid down in *Graham* reaffirmed the 'functional approach' of *Hotchkiss*, 11 How. 248." *KSR,* 127 S. Ct. at 1739 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12 (1966) (emphasis added)), and reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* The Court explained:

> When a work is available in one form of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740. The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.*

ANALYSIS

Claims 32 and 40, the independent claims under appeal, each recite, *inter alia*, multiplexing formatted non-content data on a *future* bandwidth availability basis that is *predicted* based on the statistical multiplexing of formatted content streams.

The Examiner concedes (Ans. 5) that Mao does not teach these limitations. The Examiner asserts that Wu teaches such future bandwidth availability-based multiplexing (Ans. 5). Specifically, Wu teaches that Opportunistic Data Processor (ODP) 160 "tricks" Quantizer Level Processor (QLP) 130 into assigning it bandwidth only when the ODP determines that excess bandwidth is available (FF 5). Opportunistic data is enabled only when the global Quantizer Level (QL) drops below a threshold (*Id.*). The Examiner argues that "Wu must calculate, determine, forecast, or predict the bandwidth condition will be like in the future and multiplex data with respect to that prediction … [if not,] how can it know the excess (spare) bandwidth that is not being used by the TSPs [Television Service Processors] is available for opportunistic data?" (Ans. 13).

Appellants argue that "providing data after bandwidth determination/allocation as taught by Wu is not equivalent to predicting future bandwidth availability" (App. Br. 12), because "predicting" implies "anticipating the availability of bandwidth at a time in the future" (App. Br. 12). We concur in Appellants' construction of the claim limitations regarding "prediction" and "future bandwidth availability." We agree with Appellants' contention that Wu does not teach anticipating future bandwidth availability, or making a prediction of such future availability. Wu merely teaches assignment of bandwidth from the QLP based on the ODP's determination of *current* bandwidth availability as indicated by the *current* global QL value (Reply Br. 5; FF 5). Finally, we have reviewed O'Loughlin

and find that it does not cure the deficiencies of Mao and Wu discussed *supra*.

Because Appellants have shown that neither Mao, Wu, nor O'Loughlin teaches multiplexing formatted non-content data on a future bandwidth availability basis that is predicted based on the statistical multiplexing of formatted content streams, we will reverse the Examiner's rejection of claims 32 and 40, as well as the rejection of dependent claims 33-39 and 41-44, not separately argued, under 35 U.S.C. § 103.

CONCLUSION OF LAW

Appellants have shown that the Examiner erred in finding that Wu teaches the multiplexing of formatted non-content data on a future bandwidth availability basis that is predicted based on the multiplexing of formatted content streams.

ORDER

The Examiner's rejection of claims 32-44 under 35 U.S.C. § 103 is reversed.

REVERSED

rwk

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